In the eyes of older adults: Self-reported age and adjustment in African and European older adults

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To explore older adults' perceptions of subjective age and adjustment to ageing and to analyse the correlational structure of the pre-categories in our study: subjective age, indicators of adjustment to ageing and of personal age perception. An exploratory, descriptive mixed-methods design was utilised. A purposive sampling method was used to select 154 older adults aged between 75 and 99 years from three different nationalities. Semi-structured interviews were performed, addressing two core areas: subjective age and adjustment to ageing. Data was subjected to content analysis. Representation of the correlational structure of the precategories in our study (subjective age and indicators of adjustment to ageing) were analysed by a Multiple Correspondence Analysis. Standardised instruments measured regular cognitive abilities. Five categories derived from interviews for subjective age: 'adapted', 'disconnected', 'old', 'youthful' and 'tolerant'. A total of seven categories emerged as indicators of adjustment to ageing: 'social networking', 'health', 'time perspective', 'spirituality', 'financial autonomy', 'professional activities' and 'fulfilment and leisure'. These results supported a model for each pre-category. Subjective age was explained by a two-factor model: 'age-conscientious' and 'youthful'. A three-dimensional model formed by 'reconciled', 'satisficers' and 'maximisers' was indicated as a best-fit solution for adjustment to ageing. A three-dimensional overall model for PAP was formed by 'age-cognisant', 'fulfilled' and 'satisficers'. The findings highlighted the underdeveloped potential of subjective age, adjustment to ageing and a personal age perception overall model for this population. Enhancing subjective age and adjustment to ageing might be an important target to improve older adults' interventions' outcomes.

Hierdie artikel het ten doel om ouer volwassenes se persepsies aangaande subjektiewe ouderdom en aanpassing by veroudering te ondersoek en om die korrelatiewe struktuur van die pre-kategorieë te ontleed: subjektiewe ouderdom, indikators van aanpassing by veroudering en persepsies oor persoonlike ouderdom. Die artikel gebruik 'n eksploratiewe, deskriptiewe gemengdemetode-ontwerp. 'n Doelgerigte steekproefmetode is gebruik om 154 ouer volwassenes tussen die ouderdom van 75 en 99 uit drie verskillende nasionaliteite te kies. Semi-gestruktureerde onderhoude is met hulle gevoer en dit het op twee kerngebiede gefokus: subjektiewe ouderdom en aanpassing by veroudering. Die data is aan 'n inhoudsanalise onderwerp. Die representasie van die korrelatiewe struktuur van die pre-kategorieë in die studie (subjektiewe ouderdom en indikators van aanpassing by veroudering) is met behulp van 'n veelvuldige-ooreenkoms-analise gedoen. Gestandaardiseerde instrumente het reguliere kognitiewe vermoëns gemeet. Vyf kategorieë vir subjektiewe ouderdom is uit die onderhoude afgelei: 'aangepas', 'gediskonnekteer', 'oud', 'jeugdig' en 'verdraagsaam'. 'n Totaal van sewe kategorieë het as indikators van aanpassing by veroudering na vore gekom: 'sosiale netwerking', 'gesondheid', 'tydsperspektief', 'spiritualiteit', 'finansiële outonomiteit', 'professionele aktiwiteite' en 'vervulling en vrye tyd'. Die resultate ondersteun 'n model vir elke pre-kategorie. Subjektiewe ouderdom is deur 'n tweefaktor-model verduidelik: 'ouderdomsbewustheid' en 'jeugdig'. 'n Driedimensionele model is as die beste oplossing vir aanpassing by verandering aangedui, te wete 'versoen, 'tevrede met wat voldoende is' (*satisficers*) en 'maksimaliseerder'. 'n Oorkoepelende driedimensionele model vir PAP (die Sielkundevereniging van die Filippyne) is gevorm deur die kategorieë 'ouderdom-bewus', 'vervul' en 'tevrede met wat voldoende is'. Die bevindings beklemtoon die onderontwikkelde potensiaal van subjektiewe ouderdom, aanpassing by veroudering en 'n oorkoepelende model vir persepsies oor persoonlike ouderdom in hierdie populasie. Die bevordering van subjektiewe ouderdom en aanpassing by veroudering sou belangrike doelwitte kon wees ten einde intervensie-uitkomste onder ouer volwassenes te verbeter.

Introduction

The world is ageing. In fact, the number of people over the age of 60 is projected to reach almost two billion by 2050, representing 22% of the world's population. The proportion of individuals aged 80 or over is projected to rise from 1% to 4% of the global population between today and

2050 (United Nations 2009). Because of the undeniable 'graying of society', European and North American countries have been investing strongly in psychological research on the development of health in late life and on interventions that promote the wellbeing of older adults (Fernández-Ballesteros 2007:15). Although data-collection efforts on the status of older Africans have increased in recent years (Charlton 1998; Ferreira *et al.* 1992), a paucity of quality data concerning this group remains, yet the growth of elderly African populations poses unique policy challenges and information needs concerning older adults (World Health Organization 2003). Moreover, previous literature emphasises the fact that cultural, national and ethnic differences may influence the process of ageing (Barak 2009; Torres 2003) and that ageing is an ongoing process which requires continuous adjustment (Birren & Schaie 1996). In fact, sociocultural factors play a crucial role in affecting the way in which individuals see themselves as changing in later life (Westerhof, Whitbourne & Freeman 2011:53).

Despite the fact that chronological age is the basic dimension along which physical and psychological outcomes are investigated amongst older adults, a growing body of research has considered that subjective age (SA) is an interesting personal dimension along which to explore individual functioning (Barak 2009; Montepare 2009; Schafer & Shippee 2010). Indeed, SA is a multidimensional construct assessing facets such as *felt* age and *perceived* age (Kotter-Grühn & Hess 2012:563; Ward 2010). Moreover, SA derives from a process of anchoring and adjusting personal age perceptions (PAP), considering distal cues (i.e. internal representations of developmental models) and proximal reference points (i.e. historic, physical, normative and interpersonal age markers) that guide the age that individuals across the lifespan perceive themselves to be (Montepare 2009:42). Furthermore, PAP reflects age and ageing as an individual experience. This entails personal age attitudes toward one's own ageing, awareness of age-related change and the perception of SA as including cultural and personal meanings that a person relates to his or her age (Diehl & Wahl 2010; Schafer & Shippee 2010).

Considering that the ageing process is multidimensional and multidirectional, perceptions and experiences of one's own ageing process refer to the meaning of different aspects of the ageing process as they relate to one's own person (Westerhof *et al*. 2011:52). Previous studies suggest that the personal experience of ageing consists of three dimensions: physical decline, social loss and psychological growth (Steverink *et al.* 2001:365) and that these relate differentially to personal and social resources, including social relations, education and health (Westerhof *et al.* 2011:53). Furthermore, identity process theory (Whitbourne 1986) proposes that adjustment to ageing (AtA) can be conceptualised as involving the three processes of identity assimilation (maintaining self-consistency), identity accommodation (making changes in the self) and identity balance (maintaining a sense of self but changing when necessary), whereas according to Brandstädter and Greve's 1994 model, adjustment of a person's goals and aspirations in the face of age-related challenges corresponds to what the authors named 'accommodation'. Although insufficient attention has been paid to AtA in gerontological literature (Kozma, Stones & McNeil 1991), growing evidence suggests that AtA should be a relevant key consideration in order for research and health practitioners to comprehend the implications of old age and longevity (Slangen-de Kort *et al.* 2001; Staudinger & Kunzmann 2005).

AtA and SA are distinct concepts in gerontological literature, yet they are related to the multidimensional and multicultural context of adjustment and age (Barak 2009; Kotter-Grühn & Hess 2012; Torres 2003). Moreover, their in-depth analysis and possible association can contribute to assessing an overarching view of PAP. This research design is therefore appropriate with regard to uncovering older adults' perspectives concerning the multidimensional context of ageing well.

Problem statement

The health and well-being of older people has been recognised as being one of the most pressing and universal social issues of our time (Fernández-Ballesteros 2007:15). Although early gerontological research indicated that development in old age was characterised by an increasingly negative gain–loss ratio, further studies have shown that a positive ageing experience is related to higher wellbeing and that positive self-perceptions of ageing predict better functioning in later life (Levy 2003:210; Westerhof *et al.* 2011:53). Although some previous studies have been developed concerning subjective age and ageing, there is still a need for deepening the older adults' perceptions of SA and AtA, as these may become a significant means for healthcare interventions, thereby improving wellbeing and longevity (Fernández-Ballesteros 2007; Staudinger & Kunzmann 2005). Furthermore, in view of the limited number of studies that relate these two constructs amongst older adults, this research aims to help bridge this gap.

The following research questions were thus asked: (1) How do older adults perceive SA and AtA?; and (2) What is the pattern of relationships of SA, indicators of AtA and of AtA based on the PAP model?

Aims of the study

This study aims at making a relevant contribution to the existing literature by (a) exploring older adults' SA and indicators of AtA; and (b) analysing the correlational structure of the pre-categories in our study: SA, indicators of AtA and a PAP overall model.

Significance of the study

The significance of the study is to provide original data on the conceptualisations of a cross-national older population concerning SA and AtA, given the multidimensional and multicultural context of adjustment and age and the relevance of these concepts as becoming a significant means

for improving wellbeing and longevity in an ageing world. In this way, the study provides an exploratory basis for the deepening of the potential of SA, AtA and PAP in clinical practice and health promotion in older populations.

Research method and design

Design

An exploratory, descriptive mixed-methods design was utilised. Semi-structured interviews were used to explore the different conceptualisations of SA and AtA, as described by non-institutionalised older adults aged 75 and over, living in the community. Representation of the correlational structure of the precategories in our study (SA and indicators of AtA) were analysed by a Multiple Correspondence Analysis (MCA). This research design allowed the researcher to explore the participants' perspectives in order to gain insight into and an understanding of the phenomena in question (Brink 2006:113; Burns & Grove 2005:52).

Because the study attempted to understand the phenomena from the perspective of the older adults, the research was conducted inductively. Elderly people were studied in their setting in order to uncover the uniqueness of perspectives concerning the multidimensional context of age and adjustment, by talking to them (Holloway & Wheeler 2002:17). Older adults reported their perceptions and these perceptions were reflected in words and quotations that were used to highlight the diverse aspects that were narrated (Burns & Grove 2001:61; Polit & Hungler 2004:50).

Participants and sampling

The sample for the current study comprised 154 eligible, community-dwelling older adults from three different nationalities (Angolan, Romanian and English). Participants were aged 75 years and over (M = 83.7; SD = 6.249; range 75–99), 57.8% women, 50.6% married and 61.7% professionally inactive. The recruitment of participants was performed through senior universities' message boards, local and art community centres' list-serves in the Bucharest metropolitan area (in Romania), in the Lisbon metropolitan area and in the Algarve region (in Portugal). Angolan and English participants were recruited in Lisbon and the Algarve and Romanian participants in Bucharest. Sampling was performed purposefully, with the objective of facilitating the understanding of SA and indicators of AtA in a cross-national sample. The three nationality groups are homogeneous demographically, except for the education level, as shown in Table 1.

Interviews of Angolan and English participants were performed in Portuguese, as both nationality groups were fluent in Portuguese and were residents of Lisbon and the Algarve. The Romanian interviews were performed in the Romanian language as this was the primary language of these participants. We proceeded in the classical manner of translation and retroversion. The translation of the interviews was performed by 2 psychologists with linguistic competence certificates. These made independent translations. The final version was then submitted to retroversion by a third person and was compared against the original interview. Participants were included if they had been diagnosed with no concurrent severe mental disorders, according to DSM-IV, if they were willing to share their self-reports of SA and indicators of AtA and if they scored in the normal range on the Mini Mental Status Exam (> 26) (MMSE) (Folstein, Folstein & McHugh 1975). The MMSE was administered to all participants using standardised procedures. Table 1 shows the characteristics of the study's participants.

Data collection method

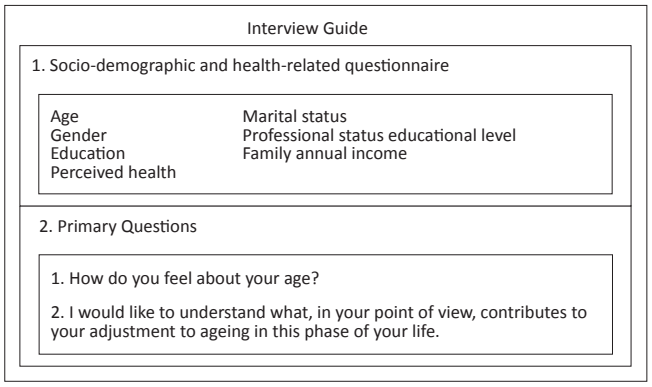
Semi-structured individual interviews based on an interview guide were conducted in the participants' own homes (see Figure 1). A number of participants were living with their children. The participants were provided with a brief description of the study over the phone or in person and were invited to participate in person-to-person interview. The interviews lasted from 25 to 50 minutes. All the participants gave their informed consent after the presentation of the study. Each interview was performed individually and began with a set of straightforward background questions, in order to find out about the participant's living arrangements, health, nationality, age, family, education and work, followed by two open-ended questions that were created in order to

TABLE 1: Distribution of the study's participants according to sociodemographic and health-related characteristics.

Variable	Angolan		Romanian		English		Total	
	N	%	*N*	%	*n*	%	*n*	%
Participants								
Sample size	53	-	49	-	52	-	154	-
Age (M; SD)	83.7	6.509	83.5	6.269	84.0	6.068	83.7	6.249
Gender								
Male	23	43.4	20	40.8	22	42.3	65	42.2
Female	30	56.6	29	59.2	30	57.7	89	57.8
Education								
Primary school	16	30.2	6	12.2	4	7.7	26	16.9
Middle school	23	43.4	8	16.3	15	28.8	46	29.9
High school	9	17.0	21	42.9	21	40.4	51	33.1
University degree or higher	5	9.4	14	28.6	12	23.1	31	20.1
Marital status								
Married or in a relationship	24	45.3	25	51.0	29	55.8	78	50.6
Single	12	22.6	11	22.4	13	25.0	36	23.4
Widowed	17	32.1	13	26.6	10	19.2	40	26.0
Professional status								
Active	22	41.5	17	34.7	20	38.5	59	38.3
Inactive	31	58.5	32	65.3	32	61.5	95	61.7
Family annual income								
≤ 10 000 €	21	39.6	13	26.5	11	21.2	45	29.2
10 001–20 000 €	20	37.7	20	40.8	20	38.5	60	39.0
20 001–37 500 €	7	13.2	12	24.5	10	19.2	29	18.8
37 501–70 000 €	2	3.8	2	4.1	4	7.7	8	5.2
≥ 70 001 €	3	5.7	2	4.1	7	13.4	12	7.8
Perceived health								
Good	27	50.9	30	61.2	35	67.3	95	61.7
Poor	26	49.1	19	38.8	17	32.7	59	38.3

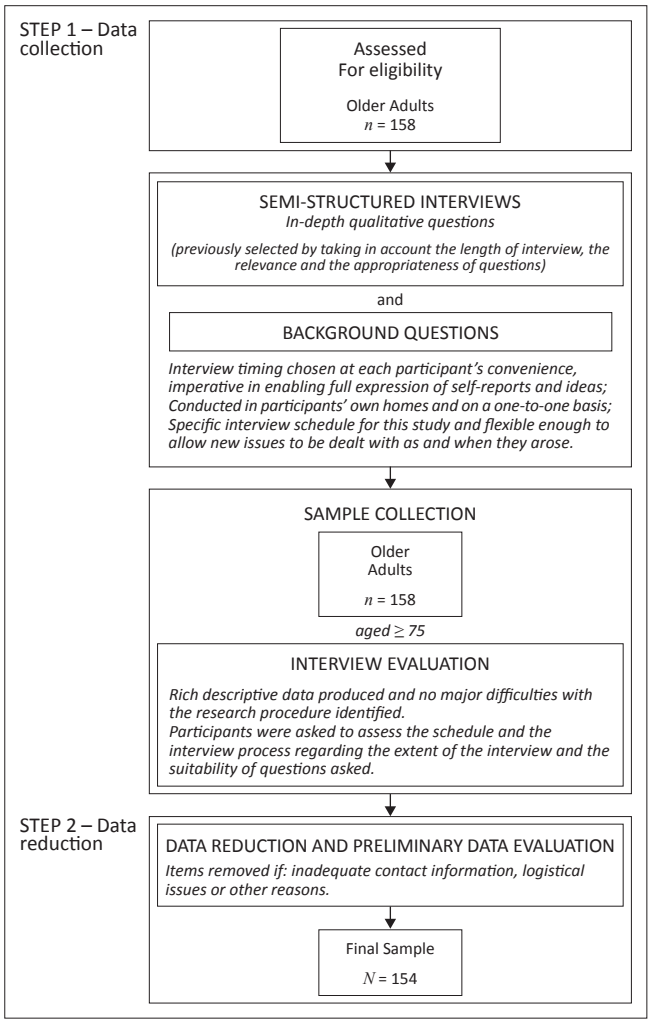
Source: Authors' own construction
Total sample: *n*, 154; M, mean; SD, standard deviation.

be free of bias and to allow any kind of narrative, as well as to facilitate the fluency of the participants' narratives about their perceptions. These questions were: 'How do you feel about your age?' and 'I would like to understand what, in your point of view, contributes to your adjustment to ageing in this phase of your life'. These questions were elaborated on to address the core areas of SA and indicators of AtA. The results from each stage of data collection are presented in Figure 2.



Source: Authors' own construction

FIGURE 1: Data-collection instrument.



Source: Authors' own construction

FIGURE 2: Overview of the data-collection process.

During the interviews, the researcher assumed a neutral position in order to avoid bias in the investigation (Burns & Grove 2005:55). Neutrality was kept by ensuring that the findings were a function solely of the participants and conditions of the research, with no researchers' interpretation. For this purpose, the researcher's own speculations, opinions, feelings, problems and prejudices were put aside during the interviews and when analysing the data. The interviews were conducted and audio-recorded by the researcher who had no previous relationship with any of the participants. Field notes were taken during and after each individual interview and were used to describe the interview dynamics and perspectives that emerged (Creswell 2003:189). Some of the participants asked to be apprised of the results at the end the study.

Data analysis

The first objective of this study was to explore older adults' SA and indicators of AtA. For this purpose, data were analysed by means of qualitative content analysis (Bardin 2007) and by using the following procedure: (a) definition of major emergent categories, mutually exclusive, for each one of the two pre-existing categories (SA and indicators of AtA); (b) creation of a list of coding cues; (c) analysis of verbatim quotes of participants' narratives in order to link them to emerging categories; (f) identification of subcategories, whilst preserving the principle of homogeneity of the category; (g) derivation of emergent categories, through constant comparison within and across interviews, allowing for the clustering of related subcategories until the point of theoretical saturation was reached (Bardin 2007:103; Fontanella, Ricas & Turato 2008:17).

The approach to the analysis was based on an overarching concern for reflecting the participants' perspectives. To this end, the researchers decided on word sense as being the most appropriate unit of analysis as it would best reflect the participants' language usage and the style variations amongst the participants (e.g. the tendency of some participants to repeat ideas). The nominal variables were coded using an alpha-numeric code. The numerical code (one and two) distinguished between the SA and AtA indicators, respectively. The alphabetical code used the letters A to F, being that each letter corresponded to one category (e.g. 'adapted' = 1a; 'social networking' = 2a). Additionally, a literature control ensured that there was a good fit between the reported data and pertinent literature. Our structure of subcategories and categories was then subjected to an external review and critical feedback was obtained from two reviewers with experience with older adults. Establishment of authority of the reviewer was ensured as follows: (a) the reviewer had to have obtained a Masters and a Doctoral degree in Health Psychology, equipping her or him with knowledge in health and wellbeing matters; (b) the reviewer had to have investigative skills and health care experience with older adults; and (c) the reviewer had to have developed experience in mixed research methods. An independent analysis of the 154 interviews was performed

by a jury of two psychologists (both faculty) and a final group coresolution was made regarding the categories. After categorising the verbatim quotes of our participants, frequencies for each category were obtained by performing a word-frequency count.

The second objective of the study was to analyse the correlational structure of the pre-categories: SA, indicators of AtA and of a PAP overall model. For this purpose, coding of nominal categories to prepare them for MCA was completed; the associations between the emergent categories and latent constructs that can work as major determinants in older adults' conceptualisation of SA and indicators of AtA, by MCA were represented; and an analysis of the correlational structure of the pre-categories in our study was performed.

Statistical criteria included a minimum of 5.0% of the total variance explained by each dimension and a minimum eigenvalue of 1 for each dimension.

Data were analysed using the Statistical Package for Social Sciences for Windows (version 19.0; SPSS Inc., Chicago, IL) in the following manner. Firstly, frequency analysis was used to characterise the sample according to the sociodemographic and health-related characteristics. Secondly, because one of the objectives of the study was to explore older adults' SA and indicators of AtA, we performed a frequency analysis for the precategories (SA and indicators of AtA). Finally, because we aimed at analysing the correlational structure of SA, indicators of AtA and of a PAP overall model, we performed an MCA.

Ethical considerations

This study constitutes part of a multiphase project entitled, 'Older adults' adjustment to ageing and subjective wellbeing' for which ethical approval was given by the Research Unit in Psychology and Health at ISPA – Instituto Universitário [ethics approval reference number APROV/ET/05/2012]. Particular care was taken to observe all ethical requirements in view of the participants' age. Thus, the ethical principles of respect for autonomy, non-maleficence, beneficence and justice were adhered to throughout the research process (Dhai & McQuoid-Mason 2011:43–44). Informed consent was received from all participants and the study protocol was approved by the Research Unit in Psychology and Health's coordination.

Privacy is an individual's right to determine the time, extent and general circumstances under which personal information will be shared or withheld from others (Burns & Grove 2001:196), thus, participants' private information was not shared without the individual's knowledge or against their will. Also, at no time were participants identified and they were free to withdraw from the research at any time without penalty.

Participants' names were kept anonymous by using code names during interviews and filing of raw data. The selection process of participants was done fairly as each participant fitting the criteria had a chance of being selected. In-depth, individual interviews were conducted in the participants' homes. The participants, therefore, did not incur any financial expense (Burns & Grove 2001:196; DENOSA [Democratic Nursing Organisation of South Africa] 1998:23). Benefits for participants included being given an opportunity to tell their perspectives in a positive, supportive environment in order to promote ageing well within old age.

Trustworthiness

Guba's model (Lincoln & Guba 1985:216–217) for ensuring and assessing trustworthiness was employed in this study. The framework entails four main strategies for trustworthiness, namely credibility, transferability, dependability and neutrality. The credibility of the findings was ensured through:

- The accurate description of older adults' perspectives.
- Data verification with participants to ensure that data was adequately captured.
- The use of audio recordings to ensure that the researcher did not forget or misinterpret the participants' words and field notes to ensure that no significant observations would be forgotten.
- The use of in-depth interviews and the rapport established with participants in order to ensure an extended period of engagement.
- A field journal kept throughout the study, reflecting the daily schedule and the researcher's thoughts.
- The triangulation of data-collection methods by combining both qualitative and quantitative methods (e.g. semi-structured interviews, questionnaires) (Strauss & Corbin 1990).
- A comparison of the findings with published studies and other literature (triangulation).
- The analysis and discussion of responses with a cocoder in order to ensure that the participants' true opinions were identified (triangulation).
- Consulting the study supervisor and colleagues to discuss the research process and findings.
- The use of semi-structured interviews and the informal conversational style in which they were conducted, allowing the participants to reflect freely on their perceptions.
- The researcher's experience of working with older populations and with qualitative data collection methods.

Transferability of the data was achieved through a detailed description of the participants' background information, the research context technique used to select participants and the analysis process (Graneheim & Lundman 2004:109).

Dependability of the data was maintained through the adequate description of the research methods, code and recoding procedures of the data and methodology assessed by experts (Krefting 1991:125).

Finally, neutrality was ensured by the researcher's keeping the original interview schedule and the audio recordings, as well as the transcripts and notes, in order to provide an audit trail.

Results

Content analysis of the emergent categories

Considering that the first objective of this investigation was to explore older adults' SA and indicators of AtA, results from the content analysis suggested five emergent categories for SA, namely, (a) 'adapted', (b) 'disconnected', (c) 'old', (d) 'youthful' and (e) 'tolerant' (see Table 2). These are in line with our conceptual framework in which SA is a multidimensional construct, assessing facets such as felt age and perceived age (Kotter-Grühn & Hess 2012:563).

'Adapted' was the most-mentioned category for SA for the participants (28.6%). This category was the most mentioned for all groups: Angolan 25.5%, Romanian 34.7% and English 25.7% (see Table 2).

These participants all stated that they felt adapted to their age and that their age corresponded with their expectations. Some of these statements can be seen in Table 3.

TABLE 2: Precategories and categories resulting from content analysis in Angolan, Romanian and English samples.

Variable	Angolan		Romanian		English		Total	
	N	%	*N*	%	*N*	%	*N*	%
Subjective age								
Adapted	56	25.5	78	34.7	62	25.7	196	28.6
Disconnected	38	17.3	23	10.2	38	15.8	99	14.4
Old	44	20.0	42	18.7	43	17.8	129	18.8
Youthful	40	18.2	50	22.2	57	23.7	147	21.4
Tolerant	42	19.0	32	14.2	41	17.0	115	16.8
Score of precategory 'subjective age'	220	100.0	225	100.0	241	100.0	686	100.0
Indicators of adjustment to age (AtA)								
Social networking	53	14.6	52	12.4	65	15.6	170	14.2
Health	56	15.5	49	11.7	79	18.9	184	15.3
Time perspective	66	18.2	75	17.9	63	15.1	204	17.0
Spirituality	68	18.8	80	19.1	70	16.7	218	18.2
Financial autonomy	44	12.2	42	10.0	45	10.8	131	10.9
Professional activities	41	11.3	74	17.7	57	13.6	172	14.3
Fulfilment and leisure	34	9.4	47	11.2	39	9.3	120	10.1
Total	**362**	**100.0**	**419**	**100.0**	**418**	**100.0**	**1199**	**100.0**

Source: Authors' own construction
N, category frequency; %, category percentage.

'Disconnected' was the least-mentioned category for SA for all groups: Angolan 17.3%, Romanian 10.2% and English 15.8% (see Table 2).

With regard to the indicators of AtA, the jury identified a total of seven categories, namely, (a) 'social networking', (b) 'health', (c) 'time perspective', (d) 'spirituality', (e) 'financial autonomy', (f) 'professional activities' and (g) 'fulfilment and leisure' (see Table 2).

'Spirituality' was the most-mentioned indicator of AtA amongst the participants (18.2%), including Angolan (18.8%) and Romanian (19.1%) (see Table 2). These participants referred to the importance of spiritual beliefs for their adjustment to AtA. These participants also reported the proximity of death and the need to make the most of their time as being indicators of their AtA.

In comparison, English participants indicated 'health' as being a relevant indicator of AtA (e.g. physical wellbeing, absence of disease) (18.9%) as contributing to their AtA (see Table 2):

> 'I go swimming every day. It's good for my body and for my mind'. (Participant 137, male, 86 years old)

'Fulfilment and leisure' was the least-verbalised indicator of AtA by Angolan (9.4%), and English (9.3%) participants, whilst 'financial autonomy' was the least-reported indicator of AtA by Romanian participants (10.0%) (see Table 2).

Multiple correspondence analysis of the emergent categories

The second aim of this investigation was to analyse the correlational structure of the precategories in our study: SA, indicators of AtA and of a PAP overall model and for this purpose, an MCA was performed.

Thus, the findings indicate the potential correlational structure and a model for each precategory and overall model, with diverse factors and factor loadings. SA is better explained by means of a two-dimensional model. The two factors, 'age-

TABLE 3: Sample participants' interview quotes.

Category	Interview quote	Gender	Age (years)
Subjective age			
Adapted	'I feel in peace with myself and with my age.'	Female	78
Disconnected	'I never think about my age. I'm too distant from that thought.'	Male	76
Old	'I feel I have lived a thousand years. The years have been a heavy load on me.'	Male	79
Youthful	'There is still a young heart beating inside of me.'	Female	88
Tolerant	'When we age, we cannot take everything seriously. We have to be benevolent towards our own age.'	Male	78
Indicators of adjustment to age (AtA)			
Social networking	'I feel the need to be surrounded by the ones I love.'	Female	75
Health	'My body is still working very well.'	Male	77
Time perspective	'The clock is always there. I know I will not live forever so I want to make the most of it.'	Female	79
Spirituality	'I feel I have a purpose in life. Everything is interconnected in nature.'	Female	77
Financial autonomy	'I love the fact that I still have my own income.'	Female	78
Professional activities	'Nothing gives me more joy than drawing my sketches. That keeps me alive.'	Female	93
Fulfilment and leisure	'I'm always thinking on what I am going to do next in my house. I enjoy improving it.'	Male	78

Source: Authors' own construction

conscientious' and 'young-at-heart', explained 89.8% of the total inertia (variance) observed (see Table 4).

As regards indicators of AtA, a three-dimensional model formed by 'reconciled', 'satisficers' and 'maximisers' was indicated by MCA as being a best-fit solution and explained 85.1% of the total inertia (see Table 5).

The results indicated a three-dimensional PAP overall model (accounting for 66.9% of the total variance) comprising 'age-cognisant', 'fulfilled' and 'satisficers' (see Table 6).

TABLE 4: Two-dimensional representation for 'subjective age': Factor loadings for each dimension, mean loadings and percentage inertia (variance) explained.

Categories	Dimensions		
	Age conscientious	Youthful	Mean
Adapted	**0.742**	0.170	0.456
Disconnected	0.487	**0.496**	0.491
Old	**0.745**	0.109	0.427
Youthful	0.487	**0.496**	0.491
Tolerant	0.216	**0.542**	0.379
Eigenvalue	2.676	1.812	2.244
Total inertia	0.535	0.362	0.448
% of variance	53.517	36.242	44.880

Source: Authors' own construction

TABLE 5: Three-dimensional representation for 'indicators of AtA': Factor loadings for each dimension, mean loadings and percentage inertia (variance) explained.

Categories	Dimensions			
	Reconciled	Satisficers	Maximisers	Mean
Social networking	0.011	**0.755**	0.000	0.255
Health	0.002	**0.676**	0.044	0.241
Time perspective	**0.752**	0.000	0.192	0.315
Spirituality	**0.664**	0.023	0.220	0.302
Financial autonomy	0.195	**0.508**	0.072	0.258
Professional activities	0.297	0.001	**0.610**	0.303
Fulfilment and leisure	0.421	0.003	**0.510**	0.311
Eigenvalue	2.342	1.966	1.649	1.985
Total inertia	0.335	0.281	0.236	0.284
% of variance	33.452	28.087	23.553	28.364

Source: Authors' own construction

TABLE 6: Three-dimensional representation for an overall model age 'personal age perceptions': Factor loadings for each dimension, mean loadings and percentage inertia (variance) explained.

Categories	Dimensions			
	Age-cognisant	Fulfilled	Satisficers	Mean
Adapted	**0.580**	0.085	0.002	0.222
Disconnected	**0.547**	0.115	0.022	0.228
Old	**0.619**	0.018	0.001	0.212
Youthful	**0.547**	0.115	0.022	0.228
Tolerant	0.071	**0.298**	0.101	0.157
Social networking	0.049	0.001	**0.627**	0.225
Health	0.146	0.064	**0.535**	0.248
Time perspective	0.226	**0.491**	0.000	0.239
Spirituality	**0.344**	**0.334**	0.007	0.228
Financial autonomy	0.010	0.185	**0.407**	0.201
Professional activities	0.195	**0.302**	0.157	0.218
Fulfilment and leisure	0.122	**0.534**	0.148	0.268
Eigenvalue	3.457	2.540	2.031	2.676
Total inertia	0.288	0.212	0.169	0.223
% of variance	28.806	21.163	16.921	22.297

Source: Authors' own construction

Discussion

This investigation was centered around two main research questions: (1) How do older adults perceive SA and AtA?; and (2) What is the pattern of relationships of SA, indicators of AtA and of the PAP model?

The participants of our study expressed a positive perceived age (66.8% of overall narratives). 'Adapted' was the most-referred-to SA for older adults. As suggested by previous studies, success in fulfilling challenges may yield more positive perceived age (Kleinspehn-Ammerlahn, Kotter-Grühn & Smith 2008:384; Ward 2010). Additionally, this study indicated the emergence of objective (e.g. health) and subjective categories (e.g. time perspective) as indicators of AtA, within the interrelated context of ageing well. 'Spirituality' and 'time perspective' were the most frequent indicators of AtA pointed out by the participants of this study. These results corroborated existing literature (Malette & Oliver 2006:31; Mowat 2004).

Growing literature emphasises self-perception of age as a personal evaluation of one's own age and that cultural, national and ethnical differences may influence the process of ageing (Barak 2009; Kotter-Grühn & Hess 2012; Löckenhoff *et al.* 2009; Montepare 2009; Torres 2003; Ward 2010). As expected, our results indicated a diversity of older adults' perspectives concerning age and adjustment amongst the three nationalities. In detail, 'adapted' was the most referred SA by our participants. This was valid for the Angolan (25.5%), Romanian (34.7%) and English (25.7%) participants, whilst 'spirituality' was the most-mentioned indicator of AtA by the participants (18.2%), including Angolans (18.8%) and Romanians (19.1%). In contrast, the English participants indicated 'health' as being the most frequent indicator of AtA (18.9%).

A potential correlational structure indicates a model for each of the cited pre-categories and for a PAP overall model. MCA indicates that SA can be explained by two factors: 'age conscientious' is represented by 'adapted' and 'old', given the strong relation with feeling adapted and feeling old. Previous literature highlights the fact that SA derives from a process of anchoring and adjusting personal age perceptions, considering distal cues and proximal reference points that guide the age that individuals across the lifespan perceive themselves to be (Montepare 2009:42).

The second factor, 'youthful', is embodied by 'disconnected', 'youthful' and 'tolerant'; therefore, these older adults feel detached, relaxed and youthful about their age. In fact, with age, older adults reported increasingly-younger subjective ages. These results are in line with the pivotal study of Kastenbaum *et al.* (1972). Previous studies indicate that 'feeling younger' was rated more positively by older adults than younger adults (Giles *et al.* 2010). Moreover, older adults reported that they felt conscientious and more agreeable than middle-aged and younger adults (Allemand, Zimprich & Hendriks 2008). Therefore, it stands to reason that these older adults might feel conscientious or youthful about their age.

Indicators of AtA are elucidated by three major factors: (a) 'reconciled' is embodied by 'time perspective' and 'spirituality'; therefore these older adults reflect and balance time, age, sense of limit and other spiritual issues; (b) 'satisficers' is composed by 'social networking', 'health' and 'financial autonomy'; thus older adults invest in family, health and autonomy; and (c) 'maximisers' is represented by 'professional activities' and 'fulfilment and leisure'; therefore these older adults want to invest in personal projects and maximise their decisions, given the strong relation between fulfilment, leisure and profession. Literature suggests that, although there is little research about older adults' decision making (Parks & Schwarz 1999), age-related, experience and culture demands have been highlighted with regard to decision making by older populations (Mather 2006). Conversely, maximising was related negatively to life satisfaction, self-esteem, optimism and happiness (Parker, de Bruin & Fischhoff 2007:348; Tanius *et al.* 2009:94). It is of note, however, that some authors found no relationship between the maximising tendency and life satisfaction (Diab, Gillespie & Highhouse 2008:368). Furthermore, in Tanius and colleagues' study (2009:94), older adults were more likely to be characterised as satisficers. Moreover, previous studies indicate that older individuals search for existential meaning and conscious ageing (Malette & Oliver 2006:31; Wong 2000).

The MCA regarding the correlational structure of the two cited precategories, emphasises that these are explained by a three-factor PAP overall model. Thus, the first factor ('age cognisant') consisted of 'adapted', 'disconnected', 'old' and 'youthful'; the second factor ('fulfilled') was formed by 'time perspective' and 'fulfilment and leisure'; and the third factor ('satisficers') comprised 'social networking' and 'health'. The remaining categories had a low loading (< 0.450) in the three factors, which indicated that these categories are not very significant in connection with these factors. Furthermore, results indicate that in the PAP overall model, the factor 'age cognisant' specifies categories in common with the factors 'age conscientious' and 'youthful' from the SA model; that the factor 'fulfilled' indicates categories in common with the factor 'reconciled' and 'maximisers' from the 'indicators of AtA' model; and that the factor 'satisficers' includes categories that are also part of the factor 'satisficers' from the 'indicators of AtA' model, corroborating previous studies that older adults were more likely to be characterised as satisficers (Tanius *et al.* 2009). Moreover, literature highlights productive activities (Wahrendorf & Siegrist 2010:67) as contributing to the wellbeing of older adults, as well as the importance of age identities and age awareness (Barak 2009; Diehl & Wahl 2010:340; Schafer & Shippee 2010) as key factors for personal perception of age.

Limitations and implications of the study

Although a diverse sample of participants was recruited, the use of a purposeful sampling method could have resulted in some selection bias. As in other qualitative studies, there is no certainty that different researchers would not come up with different categories and subcategories. Yet, qualitative research was necessary in order to maximise validity and to highlight the need for researchers and health professionals to be perceptive to the varying needs of older adults. Additionally, the interviews were only semi-structured. Even though the interviews were conducted with a view to being free of bias, two core areas were predefined as needing to be addressed. Interviews thus tended to be steered toward these areas, which could have biased the results. Moreover, our findings cannot be generalised to other samples and only reveals the perceptions of our participants. The current research merely scratched the surface of a very pertinent study field and it indicated only relevant clues to take into account in broad assessment for older adults, service planning and future research. Although this sample comprised older adults from 75 to 99 years old, more studies are needed with older adults younger than 75. Furthermore, the impact of variables such as social support, health status and education of the participants were not explored in the current study and could be studied in future investigations. Predictive relationships should also be considered in future research. The deepening from these investigations would provide the knowledge to address AtA and SA in old age more effectively. Finally, additional research is needed into the conceptual framework of AtA and SA for older adults.

Conclusion

This research aimed to investigate the conceptualisation of SA and AtA by means of semi-structured interviews and to analyse the correlational structure of the pre-categories in our study: SA, indicators of AtA and of a PAP overall model. Instead of being measured based only on quantitative measures (e.g. self-report questionnaires), we assert that the results of this study are an original contribution for a better understanding of what actually constitutes older adults' perceptions of age and ageing. Taken together, our results lend further support to the usefulness of older adults' self-reports to deepening the distinctiveness of their experiences concerning the multidimensional and cross-cultural context of age and the ageing process.

Because a more accurate match should exist between what public health and social service professionals have in mind for older adults and their own self-reports, the practical implications of this study may represent the groundwork for changes in the community services, which can address prevention services as well as services for existing conditions, such as centres for prevention to address wellbeing and healthcare in old age. Moreover, the implication for the clinical and social professionals is to invite older adults for an open discussion of age and ageing matters, as appropriate. These may help with ageing challenges by preventing health problems, increasing congruence between chronological age and perceived age, promoting social integration and ageing well. The evidence of variety regarding ageing well presented in this paper is an important contribution to the underdeveloped potential of the AtA concept in this population and its association with SA, in an overall model of personal perception of age.

Growing evidence in gerontology and geriatrics is demonstrating that the potential of older people for ageing well in different cultures is relatively unexplored, thus this study's outcome could be useful in clinical practice, service planning and evaluation with cross-national older populations. In fact, because the ageing of the population is becoming a pressing reality for both African and European countries, gerontologists need to expand their horizons of interest to include a multidimensional and multicultural approach. In brief, we consider that by exploring SA and AtA in greater depth, gerontologists will at least be better able to enlighten the pertinence of ageing well.

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Competing interests

The authors declare that they have no financial or personal relationship(s) which may have inappropriately influenced them in writing this article.

Authors' contributions

S.v.H. (Research Unit in Psychology and Health, ISPA) was responsible for the study concept and design, analysis and interpretation of data and elaboration of the manuscript. I.L. and F.P. (Research Unit in Psychology and Health, ISPA) made conceptual contributions and reviewed the manuscript. G.N. (Romanian Association of Person-Centered Psychotherapy) performed data collection and made conceptual contributions. All authors read and approved the final manuscript.

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